

Reusable School News

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

FALL 1993

Reusable School News (the News) is published by the California Integrated Waste Management Board (CIWMB), the agency responsible for overseeing the development and implementation of a statewide integrated waste management program. CIWMB provides technical assistance and resource information to school districts in developing waste prevention and recycling programs. The News is intended to be a resource for starting, maintaining or expanding school site waste reduction programs. It is being sent to local governments, school districts, schools and other interested parties. For more information, call the Schools Section at (916) 255-2296.

Hints To Handle Household Hazardous Waste — Paint

Many of us generate hazardous waste in our homes simply by cleaning, repairing or enjoying a hobby. It is important for parents and teachers to educate young people about the proper handling and disposal of these materials.

Paint is considered a household hazardous waste which, by law, must be handled and disposed properly. Latex paint is more environmentally friendly than oil-based paint because it is less toxic and can be recycled. Recycled latex paint can be purchased or donated to paint school facilities.

Here are some tips for safely handling paint:

- Carefully measure the surface to be painted and buy only the amount needed. This will cut down on the amount of paint requiring disposal.
- Buy latex or water-based paint instead of oil-based paint. Latex paint is made up of less hazardous materials.
- Try to find a charitable organization or friend to use the leftover paint. Try a school.
- If there is only dried residue and no liquid left in the paint can, it is safe to recycle the can. Call your local recycling coordinator or CIWMB'S Recycling Hotline at (800) 553-2962 for any available dropoff locations.
- If you have paint you cannot donate, take it to a Household Hazardous Waste Collection Event or Facility. There the paint will be properly disposed or recycled.
- Oil-based paint creates air pollution when it evaporates, so keep paint cans sealed.
- If you are interested in purchasing quality paint and promoting recycling at the same time, buy recycled latex paint. Call CIWMB's Recycling Hotline at (800) 553-2962 for a list of recycled latex paint suppliers. If you would like more information on recycled latex paint, CIWMB has

produced a video focusing on dispelling myths associated with recycled latex paint.

Call Kenneth Hughes at (916) 255-2467 for a copy.



Less Is Better

By Laura Diepenbrock, St. Francis High School, Sacramento, Sacramento Bee, August 1993

OK, just so you know—and just to make you really happy—you will generate around eight pounds of trash today. And guess what? You and your fellow Californians will generate 44 million tons of garbage this year.

That made your day, I know.

But guess what else? The landfills where we send all that trash are rapidly reaching capacity: Almost 87 percent of California's municipal solid waste is sent to landfills that are about completely filled up.

Now, of course, you know we all need to recycle, which truly does help to conserve natural resources and energy supplies, but here's a new idea for you to grasp: Let's not just recycle but actually reduce the amount of trash we create. It's a pretty basic concept. I mean, the less garbage we use, the less we have to manage.

No, I am not asking you to stop buying things, but the steps we can take toward "source reduction" (that's the scientific name for reducing trash) are too easy not to do, with the benefits too great not to do them. Plus, source reduction can save you some money in the long run.

Here are some pretty easy, simple and logical things you can put into practice:

Make environmentally aware decisions about the stuff you buy. Buy reusable rather than single-use products when

possible. Have a garage sale or donate items you no longer use to charitable organizations or thrift stores. Bring a reusable lunch bag to school and reuse other bags, containers, paper, boxes, etc. Buy products from recycled material. Look for products with the least amount of unnecessary packaging. Bring your own shopping bags to the store.

I know some of those suggestions may sound stupid or silly or whatever, but please just consider doing them.

Let's take the example of reusable lunch bags. Brown paper lunch bags come in a package of 100 for around \$2.50. If you need to buy around three packages during the school year, your total bill would equal about \$7.50. However, if you bought a plastic lunch box or reusable lunch bag, your total bill could be around \$3.00. Not only do you save \$4.50, but you also help the environment by not creating more trash!

Source reduction also has other benefits. It extends the life of landfills, reduces air and water pollution associated with manufacturing new products, and even saves natural resources and energy needed to make new products. Source reduction is a fundamental solution to our trash problem and if everyone practiced it, it could put a permanent end to our garbage glut.



We want to hear from students! If you know of any student who would like to write an article on any aspect of integrated waste management for the News, please submit the article to:

CIWMB Attn:
Schools Section
8800 Cal Center Drive
Sacramento, CA
95826

School District Recycling Pilot Program Update

District Program Hopes to Make Money from Recycling

Escondido Union Elementary School District (EUSD) went out to bid for recycling services in July. The bid was somewhat unique in that EUSD requested that the recycler return the revenue from the sale of the recyclables. This type of agreement provides an incentive for district staff and students to recycle. EUSD also will work to reduce their existing level of garbage service, in turn seeing cost savings. Recyclable materials collected in the program are white and colored paper, cardboard, milk cartons, juice boxes, steel cans, and polystyrene trays.

EUSD kicked off their district-wide recycling program in August. Prior to the kick-off, the district sent a letter to each of the 18 principals explaining the upcoming program and requesting they designate a recycling team. The recycling teams included at least one administrator, two teachers (on different tracks at year-round schools), nutrition services manager, and a day custodian. The team was responsible for planning and implementing the project at the school site, and setting up student recycling teams.

EUSD conducted training sessions for recycling teams. The training was conducted by the district's recycling committee with the recycler and CIWMB School staff making presentations. Topics covered were: the history of the district recycling program, the current status of the program, the districts goals for recycling, and the role of the district as a pilot project for the state. A video detailing how other schools recycle was also shown to the teams.

For more information contact:
Janay Greenlee, Purchasing, (619) 432-2147

Fresno Sees Results

Fresno Unified School District's pilot recycling program was initiated in April, 1993. The pilot covered 17 elementary schools, one middle school, and the education center, which houses 250 district staff. Recyclable materials which are being collected are white and colored paper, newspaper, cardboard, milk cartons/juice boxes, aluminum and polystyrene trays, steel cans, glass, HDPE, and PET.

A month prior to the start-up of the pilot, Fresno held training workshops for their school recycling teams.

In addition, a training booklet and video were given to each team to take back to their sites for staff and student trainings.

The pilot will last through October, 1993. This pilot will provide sufficient data, such as diversion volumes and storage issues (as Fresno frequently reaches temperatures in the high 100s), to develop a district-wide program proposed to commence in October, 1993.

The pilot program's achievements through July 30, 1993 include:

- garbage reduction of more than 50%;
- cost savings of more than \$2,000 for the 17 elementary schools (Note: As Fresno implements a district-wide program, the potential cost savings over the school year will be substantial);
- approximately 74 tons of recyclables have been collected; and
- students learned environmental concepts while participating in the diversion program.

For additional information regarding this program, contact Lyn Peters, (209) 443-5185.



Tools to Teach Trash

The search is over, and the results are in! The *Compendium for Integrated Waste Management*, a joint project of the CIWMB, Department of Toxic Substances Control, and Department of Education (CDE), is hot off the press.

Curricular materials on solid and hazardous waste issues were gathered in a nationwide search and evaluated by 24 of California's leading environmental educators experienced in the target grade levels (K-3, 4-6, 7-9, and 10-12). Using an evaluation tool developed by the CDE, the reviewers assessed the presentation, teaching strategies, teacher useability, general content, and hazardous and/or solid waste content of more than 100 pieces of curricula.

The *Compendium* contains evaluations of 44 top K-12 waste management curricula. Each entry includes ordering information, a brief description of the curriculum, a "report card" showing the scores for each area evaluated, an assessment of the subjects integrated in the curriculum, comments by the evaluators, and a reproduction of two pages of the curriculum. The *Compendium* also includes a copy of the evaluation tool, the "Unifying Concepts of Environmental Education," "Conceptual Matrix for Integrated Waste Management," and a summary of significant findings.

The *Compendium* has been sent to all school districts, K-12 public schools, county offices of education, and city and county recycling coordinators in California. Additional copies are available, at no cost to California educators, by calling (916)255-2296.

The *Compendium* was recognized for a national award of excellence by the National Association of Professional Environmental Communicators.

How-To Guides Available

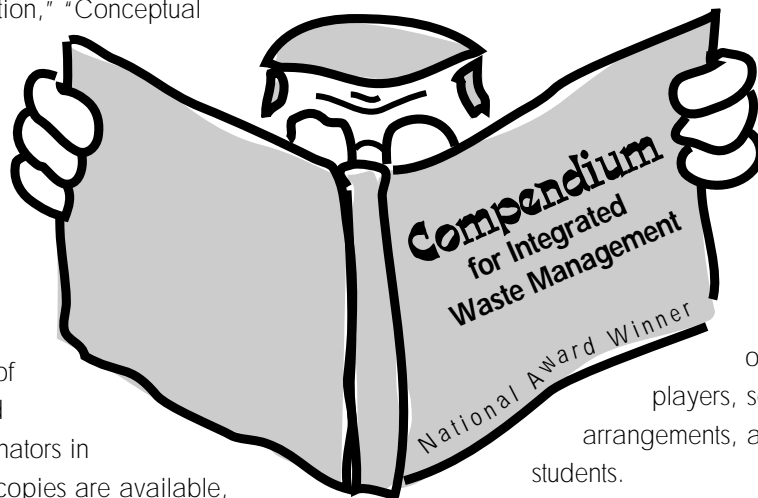
Over the past year the California Integrated Waste Management Board has spent a great deal of time assisting school districts and local governments in implementing waste prevention and recycling programs. Based upon the results of these projects and other existing model programs, the Board has developed two How-To Guides.

The first guide, *Seeing Green Through Waste Prevention*, provides extensive information for developing a district-wide waste prevention program. Waste prevention saves resources by encouraging more efficient use of materials, and it reduces pollution associated with extracting raw materials, manufacturing excess items, and disposing waste. By including a waste prevention program in the district's resource conservation plan, you can help the environment and cut costs simultaneously. This guide outlines steps, such as waste composition surveys, waste prevention ideas/activities, and cost analysis, you will need to undertake in establishing a comprehensive program.

The second guide, *A District - Wide Approach to Recycling*, supplies detailed information necessary for implementing a recycling program covering the

entire district. The data in this guide are supplemented with case studies based on other districts' experiences. Topics covered include organizing key players, securing hauling arrangements, and training staff and students.

These guides are available at no charge. To receive a copy, contact Cara Morgan, CIWMB, at (916) 255-2447.



One Hospital's Trash Is A School's Gold Mine

Liisa Nenonen, a nurse at Alta Bates Medical Center in Alameda County, started the School SAVES program. School SAVES (Supplies Are Very Effectively Stored) is a campaign launched by Nenonen to retrieve unused hospital waste and give it to cash-strapped schools.

Nenonen identified many hospital materials, such as plastic bowls, trays, and vials, which were being discarded without ever being used, because hospitals don't know what else to do with them. The benefits of the program include saving the hospital money on trash disposal, saving schools' and teachers' money from purchasing similar items, helping divert these materials from the landfills, and creating community partnerships.

Before Nenonen started delivering supplies to John Muir Elementary School in Berkeley, Barbara Vogel was spending about \$400 a year of her own money to buy these supplies for her first grade class. Now she gets the same materials for FREE. She uses them to store paints, blocks, baking supplies and dozens of silkworms munching on mulberry leaves, one of her student's science projects. The hospital's plastic bubble wrap also makes great tablecloths and aprons for painting.

Schools should work with a local hospital to set up a SAVES program. Steps for your school and hospital to follow include:

1. Get hospital management permission to start a program.
2. Take a sample of available materials to a nearby school to decide which materials to collect.
3. Get teachers or PTA members involved to help with regular pickups at the hospital or other central locations.
4. Establish an area for staff to store collected materials.
5. Identify key staff members who want to organize the program, perhaps parents of school-age children (if you do it alone, you may get burned out).

6. Collect only containers and wrappers that have not had any patient contact (primarily from unopened cases).
7. Announce your program at a staff meeting.
8. Make small signs for posting around the department (listing which materials are desirable).
9. Get pictures of the supplies being used by the students for display in your lounge areas.
10. Enjoy your efforts.

For more information regarding this program, please contact Liisa Nenonen at (510) 832-2868 or at 407 Vernon St., #305, Oakland, CA 94610.

Richmond School District Saves \$30,000

Ken Jay, the Richmond School District operations manager, estimates the district (consisting of 31,287 students) saved \$30,000 in hauler fees because of reduced garbage volume. How did they do it?

The district, located in Contra Costa County, successfully recycles milk cartons, juice boxes, paper, and cardboard. Volunteer teachers coordinate the "Green Teams" at each school. The Green Teams are made up of students who monitor the collection of recyclables during lunch. Students pour out leftover milk and juice into plastic buckets with strainers (to catch straws). Boxes are then placed in 30-gallon lined trash containers. When containers are full, a Green Team student ties off the bags and carries them to large 90-gallon garbage cans at the back of the cafeteria. Richmond Sanitation Service empties the toters once a week at no charge to the district. Schools estimate their cafeteria waste has decreased by 75 percent.

Celebrate a "Green" Holiday Season

What can your class do to stay "green" this holiday season? Here are some tips to reduce your garbage and bypass the "holiday blues."

- **Trim Waste When Sending Greetings**

Students can make their own greeting cards from scraps of paper, paper bags, old cards and trimmings. Or try recycling paper in the classroom to make this year's cards - it's easy!

- **Decorate Your Classroom Naturally**

Purchase a "live" tree for your classroom. Your students can take care of it throughout the year, and watch it grow year after year. Decorate it with hand-made ornaments, pine cones, nuts, or other items that can be reused. String popcorn and cranberries, and feed the birds after the holidays!

- **Party Time!**

Use reusable plates, cups, napkins, and utensils for classroom parties. Ask your students to bring a small plate and cup from home. Inexpensive reusable serviceware can be reused for years and will model responsible action for your students.

- **Encourage Students to "Buy Recycled"**

If your classroom has a gift exchange, encourage students to look for items that are made out of recycled materials. Or suggest a gift exchange of used toys, books, or other items.

- **It's A Wrap!**

Wrapping paper does not have to be a one-use item, nor does it have to come from a store. Use the Sunday comics from your newspaper, or a decorative bag from your shopping trip. A decorated shoe box could be used year after year to exchange gifts. Or how about wrapping a gift in a colorful towel or pillowcase? The options are only limited by your imagination.



- **Shoot For A Zero-Waste Holiday Clean Up**

After gift exchanges, parties, and holiday events, set aside all the materials you can use again next year. This includes wrapping paper, ribbons and bows, gift boxes, and packing materials.

- **No-Waste In '94!**

Take stock of your current waste practices - do you recycle? Buy recycled? Compost? Put waste prevention on your list of New Year's resolutions, and work towards a "No-waste '94!" For more information on what you can do to reduce, reuse, and recycle, call the Recycling Hotline at (800) 553-2962.

Teens Teach Youngsters To Recycle

A group of Cloverdale students spread the word about recycling as part of a pilot program called "Teen Recycling Instructors." Sponsored by Circuit Rider Productions of Windsor, the program provides training to "at-risk" teens to give presentations on environmental awareness and recycling to 5th grade students throughout the County. Program coordinator Luann Cox said the students not only gain experience and earn minimum wage, but also have the chance to do something successful and build up their confidence and self-esteem. Along with learning presentation skills, the teen instructors will also learn to write resumes, fill out forms, and practice job interviews. For more information, please contact Paula Magyari at (707) 527-2231.

Greeting Cards Made From Recycled Paper

A Classroom Activity

Students at Orrick School in Humboldt County are putting mixed paper to good reuse. The students recycle the paper (see Paper Making Recipe) and create greeting cards. The cards are then sold at a local store. The students are getting their message out that managing natural resources is not only good for the environment but can be profitable as well. For more information contact John Sutter, (707) 488-2821.

Paper Making Recipe

Objective: To teach students about the paper-recycling process.

Method: Students review the various steps involved in recycling wastepaper and then perform the process themselves by making their own recycled paper in the classroom.

Papermaking is an ancient art. The technique was invented in China in 105 A.D. Kept secret for many centuries, the process did not arrive in Europe until the 12th century. The first papermaking mill in the American colonies was established in Germantown, Pennsylvania, in 1690.

Workers in colonial America fed their mills with old rags. No longer useful as clothing, cotton and linen fabric contained an abundance of plant fiber ideal for papermaking. Rags continued to provide the major source of paper fiber in the United States until the mid-nineteenth century, when the supply of old clothing could no longer keep up with the demand for new paper. As a result, scientists developed an alternative method that used the cellulose fiber from trees. Wood pulp has been the major source of fiber for paper ever since.

Paper consists of many tiny fibers that are connected by a bond which is activated by water. These fibers can come from many different sources—wood and plant fiber, cloth, and other materials, etc.

Just as scientists worked to develop a new source of paper fiber, we too must now alter our habits in order to address the growing solid waste problem. Throughout the country, our disposable ways are overburdening our ability to handle waste safely. The landfills that take most of our garbage are rapidly reaching capacity. Likewise, our ever-increasing demand for paper and wood products is

depleting our valuable timber reserves faster than we can renew them. Recycling is one effective way to address both of these problems. Making recycled paper not only teaches us about the recycling process, but also it is a lot of fun.

Materials

- Old wooden picture frame (or construct a wooden frame)
- Window screen (large enough to cover the frame)
- Staple gun or heavy duty duct tape
- A plastic tub/dishpan (a clear tub is useful so students can see the leftover water falling through the screen)
- An electric blender
- A large spoon
- Several kitchen sponges
- Several clean rags or towels
- Assorted pieces of scrap paper from the classroom
- Thread, leaves, and food coloring
- A small stack of newspaper
- A rolling pin
- Water

Procedure

The following is a simple method for recycling paper in the classroom. For more sophisticated techniques, see chapters 4-10 in Arnold E. Grummer's book *Paper by Kids*.

Ask your students to perform the following steps:

1. To construct the mold, secure the screen snugly to the frame by pulling the screen taut and securing on underside of the frame.
2. Fill the blender with enough water to cover the blade.

Note: You can recycle the water in the tub by putting it back in the blender for the next batch.

3. Drop enough small torn pieces of paper to fill the blender half way (this can be especially fun if the students are able to shred old exams, etc.). Add more water to the blender until it is three quarters full. Blend the paper until it has been ground into an oatmeal-like consistency. This mixture is called a pulp slurry.

Note: If you prefer not to use a blender, place the shredded paper in a large bucket of water for 1-2 days, stirring regularly.

4. Have one student hold the mold over the plastic tub while another pours the pulp slurry into the mold. Hold the mold over the tub until all the water has drained through the screen.
5. Carefully lift off the wet paper and place it on newspaper. Or, invert the mold with the paper onto newspaper.
6. Using a moist sponge, blot the wet paper to soak up excess moisture. Wring the sponge, blot, and wring again until the sponge no longer absorbs water.
7. Place a few sheets of newspaper on top of the wet paper, then use the rolling pin to squeeze out more water.
8. Allow the paper to dry.

Discussion

- A. What do you see when you look at the paper under a microscope or through a magnifying glass?

After answers are offered, ask students to conduct the following experiment to learn about the properties of dry versus wet paper fibers:

1. Direct one student to hold a piece of dry tissue paper between his or her hands while another student places several coins or weights on top of

it. What happens? Why?

2. Now wet the tissue paper slightly and repeat the experiment. What happens? Why?
- B. What are the benefits of recycling paper?

Variations

- A. Ask students to build their own mold out of scrap wood.
- B. Assign students to make decorative paper using thread, leaves, and food coloring. Refer to Arnold Grummer's book *Paper by Kids* for other variations.
- C. Ask students to experiment with different types (newspaper, copy paper, construction paper) and quantities of wastepaper. Then have them use the coin test described above to test each of their variations. Have students report on their results.
- D. Using the coin test, have students test recycled paper products, such as paper towels versus virgin paper products. Discuss reasons why consumers may feel hesitant to purchase products containing recycled content.
- E. Have students identify at local stores products that are made from recycled paper. Divide students into teams and have each team develop a marketing campaign to promote a paper product(s) that contains recycled content. Have teams submit their ideas to the local city recycling coordinator or a manufacturer of recycled paper products. Note: Many communities are promoting "Buy Recycled" campaigns and may be interested in your class' ideas. For a listing of recycling coordinators contact Cara Morgan, CIWMB, at (916) 255-2447.
- F. Using decorative recycled paper, have students create greeting cards or stationery. Investigate opportunities to sell students' products at a local gift shop. See Orrick School project.

This activity was adapted from:

Closing The Loop: Integrated Waste Management Activities For School And Home,
The Institute for Environmental Education, 32000
Chagrin Blvd., Cleveland Ohio 44124.